ABSTRACTS

Chronic Beryllium Disease Prevention Program (CBDPP)
First Rule Post-Implementation Workshop

U.S. Department of Energy
10 CFR Part 850
Innovative Approaches-Removing Barriers-Maintaining Compliant Status

TUESDAY, MAY 21, 2002

10:35-10:55 am

Energy Employees Occupational Illness Compensation Program-Enrolling DOE Beryllium Sensitized Workers
Anita Brooks, U.S. Department of Labor

During this session an overview of DOL's Energy Employees Occupational Illness Compensation Program will be presented. Topics include the benefits available for covered employees or survivors with accepted claims, the requirements in establishing covered employment, the claims process, the medical requirements for beryllium sensitivity, and the medical requirements for chronic beryllium disease (CBD) before and on and after 1/1/93.

10:55-11:25 am

Energy Employees Occupational Illness Compensation Program-Enrolling DOE Beryllium Sensitized Workers
Elizabeth White, EH-6, Josh Silverman, EH-8

This presentation will address how the EEOICPA will affect current employees and DOE sites' beryllium medical surveillance programs.

11:25-11:45

Recordkeeping Requirements for Beryllium Sensitization and CBD
Jackie Rogers, EH-52

Noon-12:30 pm

Beryllium-Associated Worker Registry Status
Bonnie Richter, EH-6

This presentation will review DOE policy and goals as they relate to medical surveillance and exposure data that must be submitted to Beryllium–Associated Worker Exposure Registry. Under the Beryllium Rule, 10 CFR 850, applicable DOE sites must be in compliance by January 7, 2002. These sites should be submitting data to the registry at the present time. The goals of the registry are 1) to determine incidence and prevalence of beryllium sensitization and chronic beryllium disease, 2) to conduct epidemiologic analyses to better understand the cause and development of CBD and better identify those at risk, and 3) to monitor and evaluate the effectiveness of DOE's Chronic Beryllium Disease Prevention Program. The number and types of records submitted as of April 10, 2002 will be presented.

12:30-12:55 pm

Status of University of California DOE Laboratories' CBDPP Implementation Activities
Ken Groves, University of California

This presentation reviews the roll-up of requirements from 10 CFR 850 into documents useful to the University of California and its stakeholders as it monitors implementation at the three UC National Laboratories. The University

has suggested that a series of reports can inform the stakeholder community how the University's national laboratories document assurance that all elements of the Beryllium Rule are fully implemented to protect workers, the public and the environment. Consideration may be given to documentation vehicles that could provide DOE-wide implementation attributes of the Beryllium Rule to an even larger stakeholder community that might include, for example, the Congress, other Federal Agencies, the Secretary of Energy, as well as DOE Program and Field Offices.

2:00-3:50 pm **BREAKOUT SESSIONS – PERIOD 1 – Tuesday PM**

Group A – Room 1E-267 – Video Session
Moderator: Jackie Rogers, EH-52

Focus Topic I: Medical Surveillance (§850.34)

- **Examining the Merits of Serial Surveillance in the Beryllium Exposed Workforce**
  Lisa Barker, National Jewish Medical Research Center

- **Update on Lawrence Livermore National Laboratory's Beryllium Medical Surveillance**
  Steve Burastero, LLNL (remote)

  An update on the medical surveillance program at LLNL will be presented. The use of sensitization trends in the former worker program to identify areas of programmatic emphasis and outreach in the current worker program will be emphasized. The incidence of CBD at LLNL will be reviewed and compared with that of other DOE sites, and attempts will be made to explain the differences in rates. Relevant research on these issues will be discussed.

Group B– Room GH-027 - Voice only dial-in
Moderator: David Weitzman, EH-52

Focus Topic I: Accommodating Oversight Personnel (§850.2)

- **Dealing with States That Have More Restrictive Exposure Levels for Their Personnel**
  Robert Bistline, RFFO

  This presentation describes issues in dealing with requests from a state health department to require more restrictive exposure levels for their personnel while performing oversight activities at a DOE site. The state's rationale for this lower exposure level and their request for monitoring and personal protection will be discussed. The position of the Field Office and the site contractor in negotiations with the state health department staff will also be discussed.

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Focus Topic II: Beryllium Exposure Monitoring and Operations Experience Under the Rule (§850.24)

- **Advanced Beryllium Exposure Monitoring Techniques I – Hands-On Demonstration**
  Kathryn Creek, LANL

  The current air sampling method using 0.8 micrometer mixed cellulose ester filters has proven inconsistent at assessing workplace exposure risk. Studies by the National Institute for Occupational Safety and Health in collaboration with Brush Wellman, Inc., indicate that size-dependent particle number may be a better metric for assessing risk to airborne beryllium particulate. Advanced beryllium exposure monitoring techniques that determine size and particle number for workplace airborne exposure monitoring are demonstrated. Sampling methods include deposited submicrometer particulate sampler, condensation particle counter, and a vacuum sampling method using a personal impactor.

- **Beryllium Technology Facility Exposure Controls and Levels**
  Steve Abeln, Kathryn Creek, LANL

  The Beryllium Technology Facility at Los Alamos National Laboratory is designed to meet and exceed DOE's Beryllium Rule requirements for control of beryllium exposure. Facility exhaust capabilities include a general exhaust and a process exhaust system combined with multiple stages of filtration. Since beryllium metal machining generates high-speed particulates, local process exhaust is used with custom capture devices that fit on tooling. Secondary enclosures are also used for some operations. Turning and milling machining operations are controlled to levels below detection. Descriptions of controls for these operations and personal exposure levels are presented.

- **Exposure Controls and Levels During D&D Operations**
  Bret Clausen, Kaiser-Hill/RFETS

  This presentation focuses on the application of classical methods of particulate contamination control to limit beryllium exposures during Decontamination and Decommissioning (D&D) of beryllium facilities. Results obtained at RFETS over a sixteen month period show that proper integration of work planning, including selection of controls, and disciplined execution are effective in controlling exposures.

- **Quality Assurance of Historic Beryllium Exposure Data at Los Alamos National Laboratory**
  Barbara Hargis, LANL

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Group C – Room GH-035 - Voice only dial-in
Moderator: Bill McArthur, EH-52

Focus Topic I: Training (§850.37)

- **Using "Communicating Health Risks-Working Safely with Beryllium" for Training at Y-12**
  Elizabeth White, EH-6

  A brief update on recently revised training materials will be provided.

- **Beryllium Worker Safety – A Training Video in Six Modules**
  Rob Nicholas, LANL (remote)

  The *Beryllium Worker Safety* training video presents essential health and safety information for Department of Energy beryllium workers. This 30-minute video was produced and developed for the DOE Office of Environment, Safety, and Health by the Industrial Hygiene and Safety Group (HSR-5) at Los Alamos National Laboratory. Live classroom training and the beryllium-training facilitators manual to accompany the video. This video combines technical information with the personal perspectives of current and former beryllium workers and invites workers to make informed decisions based upon their own lives and values.

- **Beryllium Training Program and Trainee Issues at Pantex,**
  Linda Hill, Bonnie Smiley, BWXT/Pantex

  The Beryllium training program at Pantex was conducted for all personnel as identified in 10 CFR 850. The program consists of computer-based training and instructor led classroom training. "Communicating Health Risks-Working with Beryllium Safely" was the base program with added elements from the Pantex Chronic Beryllium Disease Prevention Program. The following areas of concern were identified and addressed: 1) individual susceptibility for CBD, 2) mobility of the workforce and potential exposure areas, 3) medical testing, and 4) clean up. Additional information was given and explained using medical surveillance reports, DOE fact sheets, facility surveillance / clean- up reports, and training documentation forms.

- **How Lawrence Livermore National Laboratory Ensures Employees Get the Proper Beryllium Training,**
  Ellen Anson, LLNL

  In order to meet the training requirements in 10CFR 850, LLNL has developed three classes: a beryllium awareness class, a class for beryllium workers and a class for all other beryllium associated workers. The tools used to identify the appropriate training for each employee will be presented.

- **Computer-based Training at Two Levels for Headquarters Employees,**
  Bill McArthur, EH-52

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WEDNESDAY, MAY 22, 2002

8:00-11:50 am **BREAKOUT SESSIONS – PERIOD 2 – Wednesday AM**

8:00-10:00am **Issues Raised in "Status of University of California DOE Laboratories' CBDPP Implementation Activities" Plenary Session Presentation** – Room GH-027 - Voice only dial-in
Moderator: David Pegram, EH-52

10:00-11:50 **Group A –** Room 1E-267 – Video Session
Moderator: Mike Garcia, DOE/Albuquerque (remote)

Focus Topic I: Beryllium Blood Lymphocyte Proliferation Test (BeLPT) (§850.34)

- **Quality Assurance Statistics of the BeLPT**
  Janice Watkins, ORISE

Focus Topic II: Roundtable – Innovative Approaches for Dealing with BeLPT Positive Workers (§850.34)
Moderator: Mike Garcia, DOE/Albuquerque (remote)

- *Arthur R. Morton, Pantex (remote)*
- *Steve Burastero, LLNL (remote)*
- *Lisa Barker, National Jewish Medical Research Center*

Group B – Room GH-019 **-** Voice only dial-in
Moderator: Bill McArthur, EH-52

Focus Topic I: Preparing Cleaned Beryllium Parts for Transportation (§850.31)

- **Need for DOE Standard for Cleaning and Packaging Beryllium Parts-Status**
  George Fulton, LLNL

  Issues surrounding shipment of beryllium and beryllium-containing parts within the DOE complex will be discussed. An update of LLNL work to define cleaning processes will be presented.

Focus Topic II: Implementation Lessons Learned (§850.40)

- **Implementation Lessons Learned at Y-12**
  Tom Ford, BWXT/Y-12

Focus Topic III: Employee Representative's Role in Implementing CBDPPs

- **Rocky Flats:** *Judy Yeater, Co-Chair, Hazardous and Toxic Materials Committee, United Steel Workers of America, Local 8031, RFETS (remote)*
- **Fernald:** *Robert Tabor, Fernald Atomic Trades and Labor Council (remote) Lou Doll, Greater Cincinnati Building and Construction Trades Council (remote)*
- **Hanford:** *Robert Immele, Hanford Atomic Metal Trades Council (HAMTC) member (remote)*

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Group C – Room GH-027 - Voice only dial-in
Moderator: David Weitzman, EH-52

Focus Topic I: Managing Beryllium in Waste Streams (§850.32)

- **Determination of Waste as Beryllium-Contaminated When Source is Water Runoff and Building Rubble**
  Robert Bistline, RFFO

  This presentation will discuss the approach that a DOE Field Office and the contractor are taking with regard to beryllium-contaminated soil, surface runoff water, and building rubble at a D&D site. The approach takes into consideration the variability in environmental background levels of beryllium which impact demolition rubble, remediation, and restoration of a closure site with a history of beryllium use.

- **Optimizing the Number of Beryllium Workers at a D&D Site**
  Robert Bistline, RFFO

  D&D activities at a closure site present very different challenges than in production when trying to meet the intent of 10 CFR 850 to limit the number of beryllium workers. This presentation will discuss what has taken place at the Rocky Flats site and the factors that impact the control and optimization of the number of beryllium workers. Strict control of exposures, use of sub-contractors, projectization, impacts on closure costs, future worker surveillance costs, etc, are all factors in implementing the beryllium rule.

Focus Topic II: Beryllium Exposure Monitoring (§850.24)

- **Advanced Beryllium Exposure Monitoring Techniques II – Hands-On Demonstration**
  Kathryn Creek, LANL

  The current air sampling method using 0.8 micrometer mixed cellulose ester filters has proven inconsistent at assessing workplace exposure risk. Studies by the National Institute for Occupational Safety and Health in collaboration with Brush Wellman, Inc., indicate that size-dependent particle number may be a better metric for assessing risk to airborne beryllium particulate. Advanced beryllium exposure monitoring techniques that determine size and particle number for workplace airborne exposure monitoring are demonstrated. Sampling methods include deposited submicrometer particulate sampler, condensation particle counter, and a vacuum sampling method using a personal impactor.

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Focus Topic III: Managing Space with Surface Contamination Levels Below the Housekeeping Limit (§850.30) or Below the Release Criteria Limit (§850.31)

- **Methodology Used to Conduct Baseline Survey of Legacy Areas At Lawrence Livermore National Laboratory**
  George Fulton, LLNL

  The process for identifying and characterizing "legacy" areas at LLNL will be presented. Limitations of the process will be identified. The database for managing the data will be briefly described.

- **Impact of Naturally Occurring Beryllium in Soil on Surface Contamination Levels**
  June Robinson, PNNL (remote)

  Data was collected to determine what background beryllium concentration in soil would have to be present before it might be detectable using wet and dry wipes. The relative collection efficiencies for wet swipes and dry swipes were determined for comparison. The difference in collection efficiencies has led to the conclusion that a DOE site using dry swipes may be releasing equipment or facilities that a site using wet swipes would consider contaminated. The results also imply that sites using wet swipes may be collecting removable contamination rather than resuspendable contamination and overestimating the actual beryllium hazards.

2:00-3:50 pm **BREAKOUT SESSIONS – PERIOD 3 – Wednesday PM**

Group A – Room 1E-267 – Video Session
Moderator: Elton Hewitt, Fluor Hanford (remote)

Focus Topic I: Contractor to Contractor Roundtable

This roundtable provides an opportunity for contractors to share specific questions, problems and concerns while soliciting input from other contractors and sites in an informal fashion.

Group B – Room GH-019 - Voice only dial-in
Moderator: David Weitzman, EH-52

Focus Topic I: Disposition of Previously Contaminated Spaces and Equipment (§850.31)

- **A Cost-Effective Approach to Addressing Beryllium-Contaminated Machining Tooling & Fixtures**
  Bill Frede, Honeywell FM&T/Kansas City

  The Kansas City Plant has thousands of fixtures and tooling, such as cutting bits and devices to hold parts during machining. Many of these tools have been used to process beryllium-copper alloy and are contaminated with beryllium chips and small particles. A statistical sampling was used to characterize the contamination. An ultrasonic

cleaning process has been proven to clean the parts. A statistical sampling procedure is used to verify the cleanliness of the parts after cleaning.

- **Releasing Plant Areas to the General Services Administration**
  Bill Frede, Honeywell FM&T/Kansas City

  The Kansas City Plant shares a large building with other government agencies, the largest of which is the General Services Administration. The Kansas City Plant is in the process of modernizing the plant for the anticipated future mission of the NNSA. In doing this, the area needed for production activities is being reduced. As equipment is consolidated into smaller locations, large areas of the plant become vacant. These areas are offered to the GSA for its use. Prior to giving these areas to the GSA, the area is characterized for any potential contaminants including beryllium.

Focus Topic II: Beryllium Exposure Monitoring and Quality Assurance of Sample Analysis (§850.24)

- **Advanced Beryllium Exposure Monitoring Techniques III – Hands-On Demonstration**
  Kathryn Creek, LANL

  The current air sampling method using 0.8 micrometer mixed cellulose ester filters has proven inconsistent at assessing workplace exposure risk. Studies by the National Institute for Occupational Safety and Health in collaboration with Brush Wellman, Inc., indicate that size-dependent particle number may be a better metric for assessing risk to airborne beryllium particulate. Advanced beryllium exposure monitoring techniques that determine size and particle number for workplace airborne exposure monitoring are demonstrated. Sampling methods include deposited submicrometer particulate sampler, condensation particle counter, and a vacuum sampling method using a personal impactor.

- **American Industrial Hygiene Association Beryllium Proficiency Testing Program**
  Fred Grunder, American Industrial Hygiene Association

Group C – Room GH-027 - Voice only dial-in
Moderator: Jackie Rogers, EH-52

Focus Topic I: Beryllium-Associated Worker Registry (§850.39)

- **Initial Registry Data Submission Issues and Resolutions**
  Phil Wallace, ORAU

  The Department of Energy (DOE) Chronic Beryllium Disease (CBD) Prevention Program regulation (10 CFR 850) specifies that DOE sites must submit data to the Beryllium-Associated Worker Registry. The rule states the initial submissions were to be made on January 7, 2002. This session will characterize the data submitted, describe some of the errors

detected, and the error resolution process. A review of the registry structure and submission requirements will also be presented.

Focus Topic II: Beryllium Medical Surveillance Notification Strategies (§850.34)

- **Beryllium Medical Surveillance Notification via Newsletter**
  Berline Short, URA/Fermilab (remote)

  Fermilab periodically distributes the *ES&H Section* newsletter to all employees. This presentation will provide information regarding a December 2001 the newsletter article featuring "Are you a Beryllium-Associated Worker?"

Focus Topic III: Optimizing Beryllium Exposure Reduction and Minimization (§850.11)

- **Exposure Reduction and Minimization Goals for Y-12**
  Jim Jenkins, BWXT/Y-12

  The annual report was developed at Y-12 to meet 10 CFR 850 Exposure Minimization and Reduction (850.25) and Performance Feedback (850.40) requirements. The report provides analysis and assessment of the last fiscal year's medical surveillance results, monitoring results, hazards identified, attainment of last fiscal year's exposure reduction and minimization goals, and occurrence reporting data. This feedback information is used in establishing FY02 goals for exposure reduction and minimization. New tasks, infrequent tasks, repackaging of old materials or containers, and non-process tasks have shown that the unexpected can be encountered and breathing zone results above the PEL may occur.

- **Pantex Accelerated Schedule for Building Cleanup and Medical Surveillance**
  Kenneth Meyer, W. Mark Blackburn, Pantex (remote)

  Beryllium operations at Pantex are generally limited to assembly, disassembly and packaging of beryllium containing weapon components, and disposition of excess components. Because no beryllium components are manufactured at Pantex, no significant contamination of facilities was expected. Initial surveillance, however, identified beryllium levels as high as 400 $\mu g/100cm^2$ in some former and current process facilities. The unexpected contamination coupled with the confirmed positive Be-LPT results for several production workers led to widespread concern among plant personnel. In response, the DOE/NNSA Office of Amarillo Site Operations and BWXT Pantex LLC initiated a program to compress the schedule for medical surveillance, facility surveillance, and facility cleanup from approximately three years to approximately five months. All planned activities except the cleaning of one work bay were accomplished within the five-month period.

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Current Topics
in
Chronic Beryllium Disease Prevention

THURSDAY, MAY 23, 2002

10:00-1:00 **PLENARY SESSION – CURRENT TOPICS IN CHRONIC BERYLLIUM DISEASE PREVENTION –** Main Auditorium **–** Video session

10:00-10:15 **Strategy for Follow-Up on DOE's Beryllium Control Issues**
Bill McArthur, EH-52

10:15-12:15 **Brush-Wellman Beryllium Program Review**
Marc Kolanz, Marc Corbett, Brush-Wellman

Brush Wellman has enhanced workplace protection by integrating beryllium program improvements and structure into a management system framework. The enabling foundation of this framework (commitment, communication, organization, education/training, and measurement) is integrated throughout the line organization, resulting in greater confidence in worker protection programs and beryllium exposure control. The health and safety management system and beryllium program structure are proving successful as cultural transformations are occurring within the organization and some early indications of delaying and/or preventing beryllium sensitization are observed. Additional information pertaining to working safely with beryllium can be found at www.brushwellman.com or by calling 1-800-862-4118.

12:15-12:35 **Status of Real-Time Beryllium Monitoring**
Kathryn Creek, LANL

The Network of Senior Scientists and Engineers and Los Alamos National Laboratory hosted a *Symposium on Beryllium Particulates and Their Detection* in February 2002. Methods presented included laser and microwave induced breakdown spectroscopy, laser induced incandescence spectroscopy, adsorptive stripping voltaic spectroscopy, surface-enhanced raman scattering, and a beryllium selective colorimetric test. Instrument and method developers presented a method description, data, status of development, and cost information. As a result of the information presented at the symposium, the NSSE formed a team called the Beryllium Advanced Technology Assessment Team to address some of the concerns on beryllium real-time monitoring within the DOE Weapons Complex. A summary of the instruments and methods available and the concerns that need to be addressed are presented.

12:35-12:55 **Beryllium Institutional Review Board Availability to Site Occupational Medical Directors**
Susan Rose, Office of Science